WHAT IS CLAIMED IS:

1. A semiconductor device comprising:

a plurality of processing elements; and

a switcher which connects the elements to each other, wherein each of the processing elements includes a network interface and is connected to the switcher via the network interface.

2. The semiconductor device of claim 1, wherein the processing elements are located around the switcher.

3. The semiconductor device of claim 2, wherein the switcher is located at the center position of the semiconductor device.

4. The semiconductor device of claim 1, wherein the processing elements and the switcher are implemented in a single semiconductor chip.

5. The semiconductor device of claim 1, wherein the processing elements and the switcher are implemented in a single package.

6. The semiconductor device of claim 1, wherein one of the processing elements and the switcher are connected by peer-to-peer connection via at least one transmission line.

7. The semiconductor device of claim 1, wherein each of the processing elements has a function of the same hierarchical level.

8. The semiconductor device of claim 1, wherein at least one of the processing elements and the switcher are located in a space where the light is confined, and each of the processing element and the switcher has a light emitting element and a light receiving element, thereby an optical communication is performed between the processing element and the switcher.

9. The semiconductor device of claim 1 further comprising:

a plurality of semiconductor chips each of which includes the plurality of processing elements and the switcher; and

at least one inter-switcher which connects the semiconductor chips each other.

10. The semiconductor device of claim 9, wherein the plurality of semiconductor chips and the inter-switcher are implemented two-dimensionally.

11. The semiconductor device of claim 9, wherein the inter-switcher is located in one of the plurality of semiconductor chips, and the semiconductor chips are implemented three-dimensionally.

12. The semiconductor device of claim 9, wherein each of the switcher and the inter-switcher is a circuit switching.